**Identifying the Context**The criterion assesses the extent to which the student establishes and explores an environmental issue (either local or global) for an investigation and develops this to state a relevant and focused research question.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  | Level |  |
| 0 | 1 - 2 | 3 - 4 | 5 - 6 | |
| * The student’s report **does not reach a standard** described by the descriptors (**right**) | * **states** a research question, but there is a lack of focus * **outlines** an environmental issue (either local or global) that is linked to the research question * **lists** connections between the environmental issue and the research question but there are significant omissions. | * **states** a relevant research questions * **outlines** an environmental issue (either local or global) that provides the context to the research question * **describes** connections between the environmental issue and the research question but there are omissions. | * **states** a relevant, coherent and focused research questions * **discusses** an environmental issue (either local or global) that provides the context for the research question * **explains** connections between the environmental issue and the research question | |

**Planning**This criterion assesses the extent to which the student has developed appropriate methods to gather data that is relevant to the research question. This data could be primary or secondary, qualitative or quantitative, and may utilise many techniques associated with both experimental and social science methods of inquiry. There is an assessment of safety, environmental and ethical considerations where applicable.

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| --- | --- | --- | --- | --- |
|  |  |  | Level |  |
| 0 | 1 - 2 | 3 - 4 | 5 - 6 | |
| * The student’s report **does not reach a standard** described by the descriptors (**right**) | * **designs** method that is inappropriate because it will not allow for the collection of relevant data * **outlines** the choice of sampling strategy but with some errors and omissions * **lists** some risks and ethical considerations where applicable | * **designs** a repeatable\* method appropriate to the research questions but does not allow for the collection of sufficient relevant data * **describes** the choice of sampling strategy * **outlines** the risk assessment and ethical considerations where applicable | * **designs** a repeatable\*method appropriate to the research question that allows for the collection of sufficient relevant data * **justifies** the choice of sampling strategy used * **describes** the risk assessment and ethical considerations where applicable | |

\*Repeatable, in this context, means that sufficient detail is provided for the reader to be able to replicate the data collection for another environment or society. It does **not** necessarily mean repeatable in the sense of replicating it under laboratory conditions to obtain a number of runs or repeats in which all the control variables are exactly there same.

**RESULTS,** **Analysis and Conclusion**This criterion assesses the extent to which the student has collected, recorded, processed and interpreted the data in ways that are relevant to the research question. The patterns in the data are correctly interpreted to reach a valid conclusion.

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| --- | --- | --- | --- | --- | --- | --- |
|  | |  |  | | Level |  |
| 0 | 1 - 2 | | | 3 - 4 | 5 - 6 | |
| * The student’s report **does not reach a standard** described by the descriptors (**right**) | * **constructs** some diagrams, charts or graphs of quantitative and/or qualitative data, but there are significant errors or omissions * **analyses** some of the data but there are significant errors and/or omissions * **states** a conclusion that is not supported by the data | | | * **constructs** diagrams, charts or graphs of quantitative and/or qualitative data, which are appropriate but there are some omissions * **analyses** the data correctly but the analysis is incomplete * **interprets** some trends, patterns or relationships in the data so that a conclusion with some validity is deduced | * **constructs** diagrams, charts or graphs of all quantitative and/or qualitative data appropriately * **analyses** the data correctly and completely so that all relevant patterns are displayed * **interprets** trends, patterns or relationships in the data, so that a valid conclusion to the research is deduced | |

**DISCUSSION and Evaluation**This criterion assesses the extent to which the student discusses the conclusion in the context of the environmental issue, and carries out an evaluation of the investigation.

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|  |  |  | Level |  |
| 0 | 1 - 2 | 3 - 4 | 5 - 6 | |
| * The student’s report **does not reach a standard** described by the descriptors (**right**) | * **describes** how some aspects of the conclusion are related to the environmental issue * **identifies** some strengths and weaknesses and limitations of the method * **suggests** superficial modifications and/or further areas of research | * **evaluates** the conclusion in the context of the environmental issue but there are omissions * **describes** some strengths, weaknesses and limitations within the method used * **suggests** modifications and further areas of research | * **evaluates** the conclusion in the context of the environmental issue * **discusses** strengths, weaknesses and limitations within the method used * **suggests** modifications addressing one or more significant weaknesses with large effect and further areas of research | |

**APPLICATIONS**This criterion assesses the extent to which the student identifies and evaluates one way to apply the outcomes of the investigation in relation to the broader environmental issue that was identified at the start of the project.

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| --- | --- | --- | --- | --- |
|  |  |  | Level |  |
| 0 | 1 | 2 | 3 | |
| * The student’s report **does not reach a standard** described by the descriptors (**right**) | * **states** one potential application and/or solution to the environmental issue that has been discussed in the context * **describes** some strengths, weaknesses and limitations of this solution | * **describes** one potential application and/or solution to the environmental issue that has been discussed in the context, based on the findings of the study, but the justification is weak or missing * **evaluates** some relevant strengths, weaknesses and limitations of this solution | * **justifies** one potential application and/or solution to the environmental issue that has been discussed in the context, based on the findings of the study * **evaluates** relevant strengths, weaknesses and limitations of this solution | |

**Communication**This criterion assesses whether the report has been presented in a way that supports effective communication in terms of structure, coherence and clarity. The focus, process and outcomes of the report are well presented.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  | Level |  |
| 0 | 1 | 2 | 3 | |
| * The student’s report **does not reach a standard** described by the descriptors (**right**) | * The investigation has limited structure and organisation * The report makes limited use of appropriate terminology and it is not concise * The presentation of the report limits the reader’s understanding | * The report has structure and organisation but this is not sustained throughout the report * The report either makes use of appropriate terminology or it is concise * The report is mainly logical and coherent, but is difficult to follow in parts | * The report is well structured and well organised * The report makes consistent use of appropriate terminology and is concise * The report is logical and coherent | |

Please note that while the report would be expected to be correctly referenced, students will not be penalised under their criterion for a lack of bibliography or other means of citation. It is likely that such an omission would be treated under the IB Diploma Programme academic honesty policy.

We will be using this rubric to assess any lab work that you may do in class so the level marks out of 30 will be curved to the 100% score entered in Managebac as follows:

|  |  |  |
| --- | --- | --- |
| Mark range | IB Grade | Percentage |
| 0-4 | 1 | 1-29 |
| 5-8 | 2 | 30-62 |
| 9-13 | 3 | 63-74 |
| 14-16 | 4 | 75-81 |
| 17-20 | 5 | 82-86 |
| 21-23 | 6 | 87-90 |
| 24-30 | 7 | 91-100 |

If a criterion is not being assessed for any reason within a report you will be awarded full marks for that criterion.